

PATENT SPECIFICATION

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DRAWINGS ATTACHED

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NATIONAL REFERENCE
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 AND INVENTION

(54) IMPROVEMENTS IN OR RELATING TO COIN OPERATED GAMING MACHINES

(71) I, JACK LENNARD, a British Subject, trading as Glenvil Press & Coin Automatics, of Gladstone Street, Anlaby Road, Hull, Yorkshire, do hereby declare the invention, for which I pray that a patent may be granted to me, and the method by which it is to be performed, to be particularly described in and by the following statement:—

This invention concerns coin- or token operated gaming machines.

In addition to the normal winnings which can be obtained from gaming machines and which usually correspond to double the stake money, it is usual to provide an incentive in the form of a bonus win or jackpot or both which can be many times the value of a normal win. This invention is particularly concerned with devices for use in an otherwise conventional gaming machine to produce such incentives, for example in the form of a bonus win after a predetermined number of winning games have been played or a jackpot win of greater potential value after a variable number of winning games have been played on the machine.

According to one aspect of the present invention a gaming machine which includes an electro-mechanically operable winnings payout device for paying out the winnings at the end of each winning game, wherein a bonus win is obtainable after a predetermined number of winning games have been played thereon comprises counting means arranged to count wins and a bonus pay out device the operation of which is controlled directly, or indirectly, by the counting means, whereby operation of the bonus payout device is prevented until a predetermined number of wins have been counted. Conveniently said signal actuates the bonus pay out device in such a way that the normal winnings associated with the successful game which completes said predetermined number of successful games are increased, for example, by a factor of five.

Preferably the counting means is coupled to

the normal winnings pay out device, to count consecutive operations of the latter.

Preferably visual indicating means are provided for indicating the number of consecutive wins which may have been obtained at any time.

According to another aspect of the present invention a device for providing a bonus win after a variable number of winning games have been played on a gaming machine comprises counting means coupled to the winnings pay out device of the machine for counting consecutive wins, a subsidiary gaming machine in which the chances of winning are greater than losing any game, and a bonus pay out device coupled thereto for paying out winnings associated with successful games played on the subsidiary machine, said subsidiary machine normally being held in an inoperative condition and being switched into an operative condition only when the number of consecutive wins counted by the counting means is equal to a number selected by first random number selector and control means arranged to vary the capacity of the counting means in accordance with the selected number and the number of consecutive games which can be played on the subsidiary gaming machine when it is switched into its operative state, being determined by second random number selector and control means coupled thereto.

The invention will be described further by way of example with reference to the drawing accompanying British Provisional Patent Application No. 13927/67, in which:—

Fig. 1 is a block circuit diagram of a device for obtaining a bonus pay out of fixed value after a predetermined number of normal wins have been obtained in a coin operated gaming machine,

Fig. 2 is a block circuit diagram of a similar device in which a bonus pay out of unknown value is obtained after a random number of normal wins have been obtained.

— and with reference to the accompanying

drawing containing Fig. 3 which is a circuit diagram of a portion of the gaming machine of Fig. 1 of the drawing accompanying British Patent Application No. 13927/67 (Serial No. 1,202,691).

In Fig. 1 of the drawing accompanying Application No. 13927/67 (Serial No. 1,202,691) the normal winnings pay out device of an otherwise conventional gaming machine is indicated by the reference numeral 10. This pay out device 10 may comprise motor driven ejector means for ejecting a predetermined number of coins or tokens into a chute when a game has ended in a win for the punter or it may comprise an electromagnetically operated solenoid device having a spring loaded plunger which serves to eject a predetermined number of coins or tokens into a chute upon energisation of the electromagnetic solenoid. An electric signal is derived each time the pay out device 10 is operated and this electrical signal is applied via a signal path 12 to a counting circuit 14 the counting circuit 14 may comprise a number of electromagnetically operable relays arranged to count successive pulses applied along the signal path 12. Alternatively the counting circuit may comprise a Uni-selector which is stepped from one position to another in response to each pulse along the signal path 12 or any other counting circuit may be used such as for example, thermionic valves arranged in a ring circuit or semi-conductor devices also arranged in a ring circuit. In a preferred embodiment of the invention, however, the counting circuit comprises an 11-way rotary wafer switch (see Fig. 3). The wafer switch is provided with a number of separate rotary sections 40, 42, 44 and 46 of which Section 40 serves as a counting device for providing ten outlets, section 42 controls the current to a driving motor 48 and serves to interrupt the current to the motor after the switch is rotated into each of its stepped positions so that the switch is moved successively from one position to another and section 44 serves to reset the rotary switch by maintaining the power to the driving motor from position 10 of the rotary switch through position 11, so that, after ten positions of the switch have been traversed the switch is rotated through the eleventh position and just beyond so as to occupy its initial starting position ready to receive another batch of pulses along the signal path 12. In this arrangement the pulses applied along the signal path 12 are current pulses sufficient to actuate the driving motor of the rotary wafer switch and to cause the motor to rotate the switch sufficiently for the wiper blade 43 of the wafer section 42 to just make contact with the next section of the wafer switch before the signal pulse collapses. The motor continues to operate, deriving its power from the blade 43 by virtue of the contact between the blade and the contact section of the wafer section 42 until

contact between the blade 43 and that contact section is broken.

In the counting wafer section 40 the wiper blade 54 subtends an angle sufficient to allow the blades to bridge five contact sections of the counting wafer and the stepping action of the switch causes this large-angle wiper blade to make contact with first one contact section of the counting wafer, then two contact sections of the counting wafer and so on until five contact sections of the counting wafer are bridged. By supplying current to the blade 54 from one terminal of a current source (not shown) the other terminal of which is earthed and connecting the first five contact sections of the counting wafer 40 to five indicating lamps mounted behind five translucent display panels on the front of the machine, one, two, three, four or five of these display panels will be illuminated according to the position of the rotary wafer switch. In order to complete the circuit through the lamps they are connected to a common junction 60 which is earthed and is thereby connected to the other side of the current source.

If ten indicator lamps and associated display panels are required a further five indicator lamps are connected to the next five contact sections of the counting wafer section so that continued rotation of the rotary switch causes these next five contact sections to be bridged in turn. It will be appreciated however, that in an eleven way rotary switch, continued rotation of the large angle wiper blade 54 after the first five contacts are bridged will cause the trailing edge of the wiper blade to become disengaged from the first five contact sections so that beginning with the first, the first five lamps are extinguished. A relay 50 is therefore provided having five normally open contacts in parallel with the first five switch contact sections on the counting wafer section 40. The energising coil of the relay 52 is connected in parallel with the fifth indicator lamp so that current is supplied to the relay when the fifth contact section is engaged by the large angle wiper blade. Operating current will be supplied to this relay 50 until the large angle wiper blade moves forward from the tenth position of the rotary switch. The relay includes five normally open contacts in parallel with the first five contact sections of the wafer section 40 so that the first five lamps are supplied with operating current even after the large angle wiper blade is rotated into the second half of the rotary switch.

In order to remove operating current from the second five lamps at the end of a complete count, a further wafer section 46 is included in which the last six sections are bridged and the bridged sections are connected to a common terminal 58 on the side of the lamps 6—10 remote from the wafer section 40 and the wiper blade 59 is connected to earth.

The lamps and illuminated display panels constitute an indicator, identified as 16 in Fig. 1, which serve to indicate the number of consecutive wins obtained on the machine. The signal path 18 shown between the counting circuit 14 and the indicator 16 in the drawing, corresponds to the electrical path between each contact section of the counting wafer and its corresponding indicator lamp (e.g. 62 in Fig. 3).

In order to provide a signal when the ten lamps are illuminated a further wafer section (not shown) is provided in which the wiper blade is connected to one side of a current source and the tenth contact section is connected to the operating coil of a relay 64 having normally open contacts 66 which, when the relay is operated, are closed and serve to supply operating current along a signal path 20 to a bonus pay out device 22 (see Fig. 1). As illustrated in Fig. 1 this bonus pay out device 22 is separate from the normal winnings pay out device 10 and may comprise a separated solenoid operated device having a plunger (not shown) for ejecting a predetermined number of coins or tokens into a chute.

In a gaming machine, more than one type of award can usually be gained by winning an ordinary game, depending on the symbol or symbols representing the outcome of the game. Thus where one symbol represents a win of twice the stake money another symbol can represent three times the stake money. As described so far, the counting circuit 14 will register each time any type of win is obtained. In a preferred arrangement however, the counting circuit may be adapted by means, not shown, to distinguish between wins so that only those of one type (e.g. twice the stake money) are counted. In this way the Bonus payout is made dependent on the number of wins of one type only. This is particularly useful where it is wished to incorporate a second form of bonus pay out such as a jackpot in the same machine since the one Bonus pay out can be made dependent on wins of one type and the other bonus pay out can be made dependent on wins of another type whilst keeping the two bonuses independent of each other.

Fig. 2 of the drawing accompanying Application No. 13927/67 illustrates a device which may be incorporated in an otherwise conventional gaming machine, either alone or in conjunction with a bonus winning device as illustrated in Fig. 1. The device of Fig. 2 is arranged to give a bonus which is entirely separate from the bonus paid by the device of FIG. 1 and conveniently this second bonus is in the form of a jackpot win.

Since the device of Fig. 2 derives its control signals from the winnings pay out device 10 of the machine, this has been signified in the drawings by a dotted line 24 between the winnings pay out device 10 in Fig. 1 and the device of Fig. 2.

The device of Fig. 2 comprises a counting

circuit 26 whose capacity is variable in the range 1 to 10 and is determined by means of a control circuit 28 which includes a Random Number Selector arranged to select numbers between 1 and 10, the number selected at any time determining the capacity for the time being of the counting circuit 26.

Where the device of Fig. 2 is incorporated in the same machine as the device of Fig. 1, the counting circuit 14 (Fig. 1) is actuated by wins of one type registered by the winnings pay out device 10 and the counting circuit 26 (Fig. 2) is actuated by wins of another type as registered by the same winnings pay out device 10. In this way the device of Fig. 1 and the device of Fig. 2 are operated independently.

The counting circuit 26 is arranged to provide a signal when it has counted the number of wins of the particular type determined for the time being by the control circuit and Random Number Selector 28. In order that the jackpot win provided by the device of Fig. 2 can be truly Random, a second gaming machine 30 is provided which is programmed so that the chances of a punter winning are greater than his losing. Normally the second gaming machine is rendered inoperable and is only actuated into an operative state when the aforementioned signal is generated by the counting circuit 26. A signal path between the counting circuit 26 and the second gaming machine 30 is denoted by the line 32.

The maximum win for any one game on the second gaming machine is limited and in order to provide a potentially high win it is necessary to arrange a number of consecutive games to be played on the second gaming machine 30 before it is again rendered inoperable. Accordingly the number of consecutive games which can be played on the second gaming machine 30 is determined by another control circuit 34 which includes a Random Number Selector for selecting numbers, for example from 1 to 10. A number is selected before a game is played on the second machine 30, this number determining the number of consecutive games which can be played on the second gaming machines 30. Games can be played on the second machine 30 by inserting coins of appropriate denomination in a further coin receiving means (not shown). Winnings from the second gaming machine 30 are paid out by a Jackpot pay out device 36 coupled to the second gaming machine 30. The Jackpot pay out device 36 is separate from the normal winning pay out device 10. Alternatively the winnings pay out device 10 serves to supply normal winnings, bonus winnings and jackpot wins.

WHAT I CLAIM IS:—

1. A gaming machine which includes an electro-mechanically operable winnings pay out device for paying out the winnings at the

- end of each winning game wherein a bonus win is obtainable after a predetermined number of winning games have been played thereon comprising counting means arranged to count wins and a bonus pay out device the operation of which is controlled directly or indirectly by the counting means whereby operation of the bonus payout device is prevented until a predetermined number of wins have been counted.
- 5 2. A gaming machine as claimed in claim 1 wherein the counting means is coupled to the winnings pay out device to count consecutive operations of the latter.
- 10 3. A gaming machine as claimed in claim 2 in which the counting means is an electro-mechanically operable device.
- 15 4. A gaming machine as claimed in claim 3 in which the winnings pay out device additionally serves as the bonus pay out device and is operable both to supply the winnings at the end of a winning game and to supply a bonus win.
- 20 5. A gaming machine as claimed in claim 4 comprising visual indicating means to indicate the number of consecutive wins which have been obtained at any time.
- 25 6. A gaming machine as claimed in claim 1 in which the counting means has a variable capacity determined by random number selector and control means said predetermined number corresponding to the number selected for the time being by the random number selector and control means.
- 30 7. A gaming machine as claimed in claim 6 which further comprises a subsidiary gaming machine in which the chances of winning are greater than losing any game played thereon, and which is normally held in an inoperative condition but is rendered operative by a signal from the counting means indicating said predetermined number of wins have been counted.
- 40 8. A gaming machine as claimed in claim 7 in which the number of consecutive games which may be played on the subsidiary gaming machine is determined by a second random number selector and control means from which a signal is supplied to switch the subsidiary gaming machine into its inoperative condition when the number of consecutive games played thereon corresponds to the number for the time being selected by the second random number selector and control means.
- 45 9. Gaming machines constructed, arranged and adapted to operate substantially as herein described with reference to and as illustrated in the drawings accompanying the provisional specification 13927/67.
- 50 10. Gaming machines constructed, arranged and adapted to operate substantially as herein described with reference to and illustrated in the drawing accompanying the Complete Specification.
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W. P. THOMPSON & CO.,
Seaton Buildings, Paragon Square,
Hull, and 12, Church Street,
Liverpool, 1.
Chartered Patent Agents.

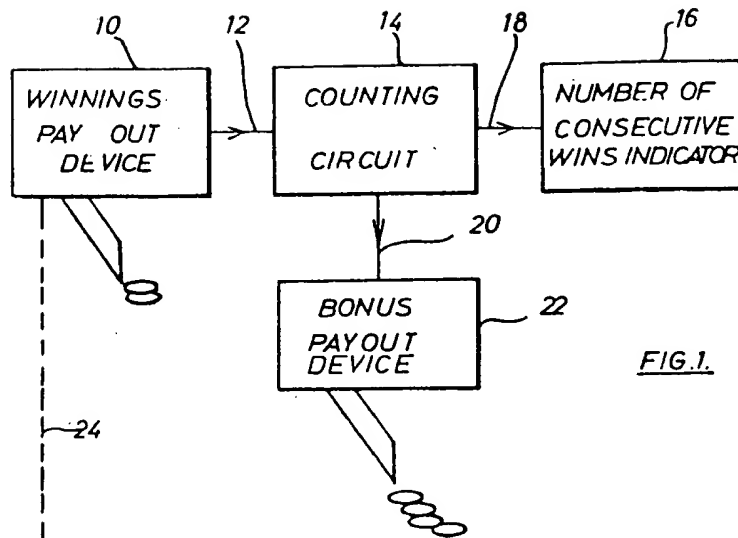


FIG. 1.

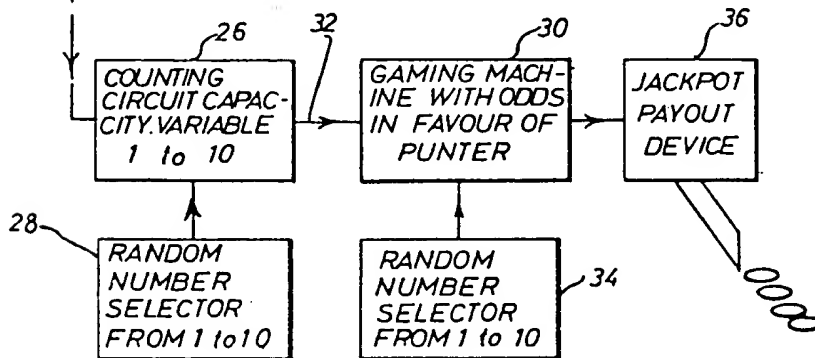


FIG. 2.

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COMPLETE SPECIFICATION

1 SHEET

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the Original on a reduced scale

